

# ATTO ExpressPCI UL4S



## Single-channel Ultra320 SCSI Host Adapter Featuring PCI-X Support and Vpath™ Technology

*The UL4S single-channel Ultra320 adapter is the latest generation of the ATTO ExpressPCI family of high-performance SCSI host adapters for data-intensive environments. Data transfer rates of up to 320 MB/sec., coupled with ATTO Vpath™ Technology and support for the advanced PCI-X bus, make the UL4S the ideal single channel SCSI connectivity solution for Enterprise servers and high-end workstations running high-volume, mission-critical applications such as messaging and databases. ATTO's exclusive Vpath technology offers users the flexibility of connecting high-speed Ultra320 devices externally and slower legacy devices internally, or vice versa, without sacrificing the performance of the high-speed device.*

## TECHNICAL HIGHLIGHTS

- Ultra320 SCSI
- Up to 320 MB/sec. data-transfer rates
- 64-bit/133 MHz PCI-X with backward compatibility
- Exclusive ADS™ Technology
- Supports up to 30 SCSI bus IDs – 15 each externally and internally
- Up to 12 meter cable lengths

# ATTO

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## Hardware Specifications

### SCSI Interface:

- 320 MB/sec. data-transfer rates
- One (1) external and one (1) internal high-density 68-pin connector
- Low Voltage Differential (LVD) signaling
- Support for tagged command queuing
- Backward compatible with Ultra 160, Ultra2, Ultra/WIDE, Fast/WIDE and Narrow SCSI devices

### Advanced SCSI:

- Double transition clocking
- Domain validation
- Cyclical Redundancy Checking (CRC)
- Packetization
- Quick Arbitration Select (QAS)
- ASPI compliant (for PC users)
- Bootable from attached disks
- Support for disconnect/reconnect
- Support for multiple block sizes

### Accelerated PCI Bus Management:

- PCI-X bus master rate of 1 GB/sec.
- PCI-X 1.0a compliant
- PCI 2.2 and PCI 99 compliant
- 64-bit/133 MHz PCI-X (backward compatible with standard PCI)

### General Characteristics:

- Automatic termination
- Upper-byte termination for Narrow devices
- Flash ROM BIOS for easy field upgrades
- PC 99 compliant
- Plug and play compatible
- Includes ATTO ExpressPro-Tools™ and ATTO Configuration Tool formatting and utility software



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## Software Specifications

### Driver Support:

- Windows Server 2003
- Windows XP
- Windows® 2000
- Mac® OS X
- Linux

### Advanced Data Streaming (ADS™):

- Improved PCI system bandwidth use
- Optimized SCSI-3 algorithms
- Tagged command queuing
- Embedded RISC I/O processor

### RAID kits available

## Environmental and Physical Characteristics

### Dimensions:

- Length 6.521"
- Height 4.200"

### Operating Environment:

- Temperature: 0-45° C
- Humidity: 10-90% non-condensing
- Airflow: 100 LFM (min)

### Reliability:

- MTBF = 150,000 hours
- MTTR < 15 Minutes

### Power:

- 0.75 typical/2.0 max. Amps @ + 5.0 VDC
- 0.05 Amps @ + 12.0 VDC

### PCI Signal Compatibility:

- 3.3 Volts/5 Volts Universal

## SCSI Host Adapter Selection Chart

SCSI Host Bus Adapters	Ultra320 SCSI		Ultra3 SCSI		Ultra/WIDE
FEATURES	UL4D	UL4S	UL3D	UL3S	PSC
Max. Transfer Rate (MB/sec.)	640	320	320	160	40
Low Voltage Differential	•	•	•	•	
Single-Ended SCSI	•	•	•	•	•
Number of SCSI Channels	2	1	2	1	1
Number of SCSI IDs Supported	30	30	30	30	15
Large File Transfers	•	•	•	•	•
Cable Distances	12.5	12.5	12.5	12.5	up to 3m
Uncompressed Video	•	•	•	•	
32-bit PCI Compatible	•	•	•	•	•
64-bit PCI Compatible	•	•	•	•	
33 / 66 MHz PCI	•	•	•	•	•
133 MHz PCI-X	•	•			
Windows® 2000/XP/Server 2003	•	•	•	•	•
Linux	•	•	•	•	•
Mac® OS & Mac OS X Support	OS X	OS X	•	•	•